

# Seminar Series



Join us the second Thursday of every month for a series of "brown bag" seminars, sponsored by the National Renewable Energy Laboratory and the U.S. Department of Energy (DOE). Each seminar is held at NREL's Washington, D.C., office or in Golden, Colorado. Topics focus on new and innovative renewable energy and energy analysis strategies, models, and technologies.



## Web Access and Call-In Information

### Log-In Info

URL for log-in:

<https://www.mymeetings.com/nc/join/>

Conference Number: SW192882

(no passcode is needed)

You also can join the event directly at

<http://www.mymeetings.com/nc/join.php?i=SW192882&p=&t=c>

### Call-In Info

To call in: 1-877-989-1543

Passcode: 8864359



# The Role of Energy Storage in the Modern Low-Carbon Grid

*A seminar presented by DOE/EERE's Office of Planning, Budget, and Analysis and NREL's Strategic Energy Analysis and Applications Center*

**Paul Denholm, Senior Energy Analyst**  
National Renewable Energy Laboratory

**Thursday, June 12, 2008**

**10 – 11 a.m. (Golden, Colo.)**

**Noon – 1 p.m. (Washington, D.C.)**

(The seminar is also offered via conference call or Internet conferencing. See the log-in and call-in information below.)

Energy storage is seen by many as an important component of a future grid, which will derive a large fraction of its energy from renewable energy sources such as solar and wind. During this seminar, Paul Denholm (of the National Renewable Energy Laboratory) will discuss the role of energy storage in the current and future grid. He will emphasize the valuation of energy storage for providing a variety of grid services including energy, capacity, and ancillary services; and the potentially increasing opportunities for storage in a low-carbon grid of the future. The presentation also will discuss current storage technologies, those under development, and the potential role of energy storage in plug-in hybrid electric vehicles as a grid-enabling technology.

**Paul Denholm** is a senior energy analyst in the Strategic Energy Analysis and Applications Center at the National Renewable Energy Laboratory. His main research interests include grid integration and environmental impacts of renewable electricity sources including wind and solar photovoltaics. His focus includes technical and economic evaluation of enabling policies and technologies including alternative electricity rate structures, long-distance transmission, energy storage, and plug-in hybrid electric vehicles. He has a master's degree in physics and a doctorate in environmental studies and energy analysis from the University of Wisconsin-Madison.



**Paul Denholm**

## Golden, Colo., information

**1617 Cole Blvd., Golden, Colorado  
Building 3, Conference Room 170.**

**Due to construction at the Visitors Center, the seminar location will remain in Building 3 until further notice.**

**Please contact Kalia Kehoe at  
kalia\_kehoe@nrel.gov or 303-384-7439**

## Washington, D.C., information

**901 D Street SW (adjacent to the Forrestal Building)  
or 370 L'Enfant Promenade. Ninth Floor.**

**Please contact Wanda Addison, of Midwest  
Research Institute (MRI), at  
wanda\_addison@nrel.gov or 202-488-2202**

For more information on NREL analysis and applications, please visit  
[www.nrel.gov/analysis](http://www.nrel.gov/analysis) and [www.nre.nrel.gov/applying\\_technologies](http://www.nre.nrel.gov/applying_technologies)